



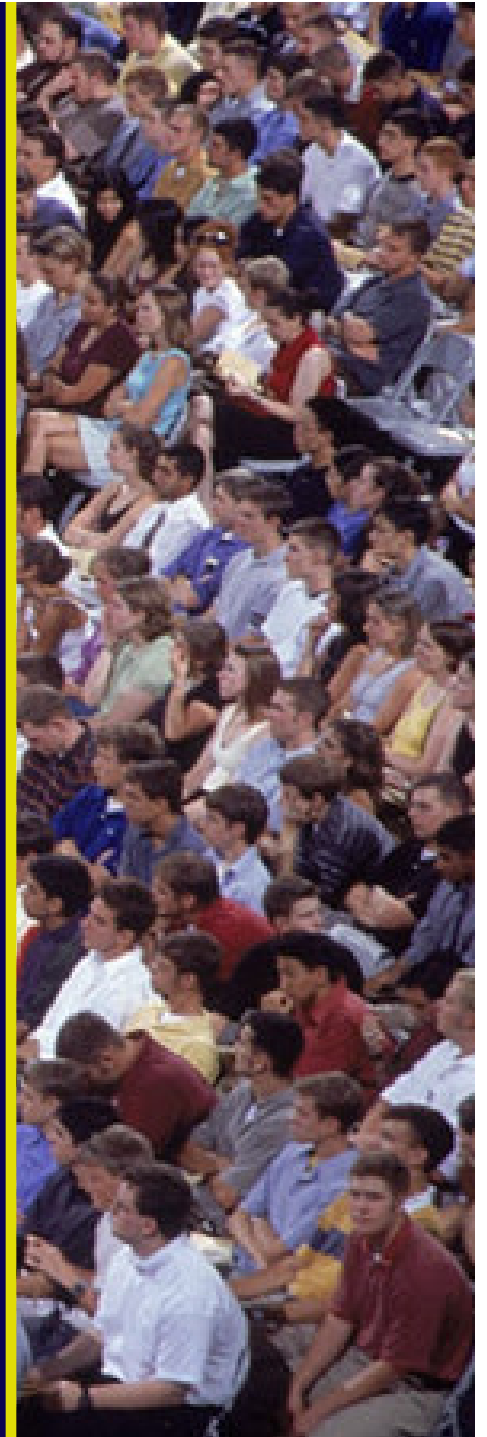
# Maximizing the opportunities Mitigating the risks

President G. Wayne Clough

Administrative Retreat  
August 14, 2006

# Incoming freshmen

- Record freshman class of 2,800 +
- 248 began in a special summer term
- 60% from Georgia; 40% from outside the state
- Big gainers:
  - ▷ College of Sciences up 22%
  - ▷ Ivan Allen College up 11%
  - ▷ Women make up 31% of the class



# Outstanding students



Michael Haynes:  
Marshall Scholar  
Cambridge University



Jarret Lefleur:  
*USA Today* Academic All Star  
Astronaut Scholarship  
Foundation Scholar



Isaac Penny:  
Astronaut Scholarship  
Foundation Scholar



A.J. Friend  
Jonathan Diaz  
Andrew Marin



## Goldwater Scholars:

### Anita Borg Memorial Scholars:

Gillian Hayes  
Delphine Nain  
Laura Rouse  
Tracy Westeyn



# Students go global



Architecture team won international sustainable design competition to revitalize historic section of downtown Dubai.



MBA students traveled to Argentina to analyze market, risks, chances for success of 3 Georgia businesses with interest in beginning operation there.



Interdisciplinary student team is one of 20 international teams chosen to develop an 800-sq-ft solar house. The house will be built on campus from this model, then reassembled on the National Mall in Washington, D.C. for the competition.

# Arts blossom at Tech



LCC Assistant Professor  
Michael Mateas won the top  
prize in the Slamdance  
Grand Jury Guerilla  
Gamemaker competition at  
the Sundance Film Festival.



Poet Steve Kowit

Tech has one of the  
nation's most aggressive  
poetry programs.

The Georgia Tech  
Woodwind Ensemble  
performed at the  
Shanghai International  
Arts Festival.



# Tech offers first music degree



Jamming with Haile, the robotic percussionist.

Tech will begin offering an M.S. degree in music technology, with emphasis on computer music research and engineering. Will develop additional areas of emphasis.

# Spring sports

Baseball team played in the College World Series for 3<sup>rd</sup> time in Tech history. Golf team won the ACC title.



Women's tennis team made it to the NCAA quarter-finals, farthest in Tech history. Kristi Miller named 1<sup>st</sup> Team Academic All American, top collegiate tennis athlete. Softball team won ACC Sportsmanship Award.



Men's lightweight 8+ crew team won gold, varsity open 4+ took silver at Dad Vail Regatta, largest in nation.

# Faculty win awards

## CAREER Awards:

Victor Laurens Breedveld, ChE  
Nirin Murthy, BME  
Alexandra Boldyreva, Comp  
Gregory Durgin, ECE  
Elliott Moore, GT Savannah, ECE  
Jeffrey Todd Streelman, Biology  
Frank Rothaermel, Management  
Sung-Kyu Lim, ECE

## AAAS Fellows:

Barry Bozeman, Public Policy  
Charles Liotta, ChE, Chemistry  
James Foley, Computing  
James Gale, Physics  
Willie Pearson, Jr., HTS  
Peter Webster, CEE

## Fulbright Scholars:

David Goldsman, ISyE, to Turkey  
Stuart Goldberg, Mod Lang, to Russia  
Fei-Ling Wang, Int Affairs, to S Korea



# Faculty honored



Jim Meindl, ECE, received the 2006 IEEE Medal of Honor for pioneering contributions to micro-electronics, will direct Nanotech Research Center.

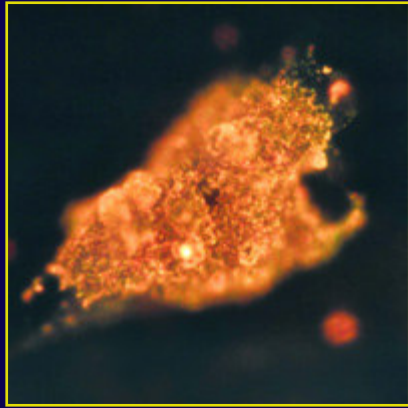


Carol Colatrella, LCC, named Fulbright New Century Scholar; collaborates with international colleagues on “Higher Education in the 21<sup>st</sup> Century: Global Challenge and National Response.”

Robert Loewy, AE won Daniel Guggenheim Medal.

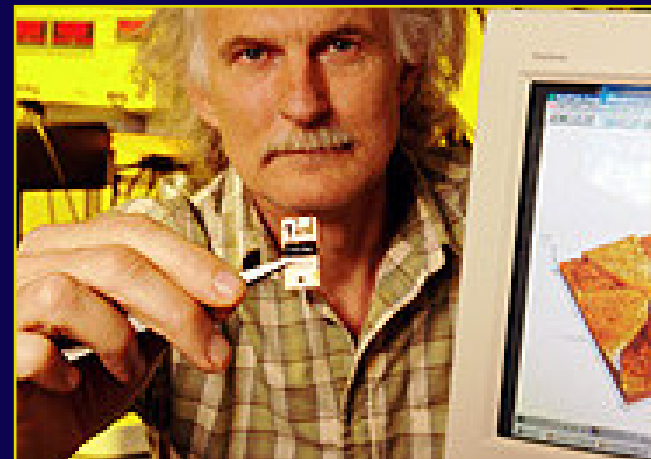


# Nanotechnology opens new doors



Gold nanorods engineered to bond to cancer cells not only reflect light, allowing cancer to be detected, but also absorb laser light, enabling cancer cells to be destroyed with half the energy required to kill healthy cells.

Thin layers of graphite – eventually as thin as 10 atoms – could be the foundation for nanoscale electronic devices that manipulate electrons as waves, much like light, to be energy efficient .



# Leading the way in energy

## ➤ Multidisciplinary research

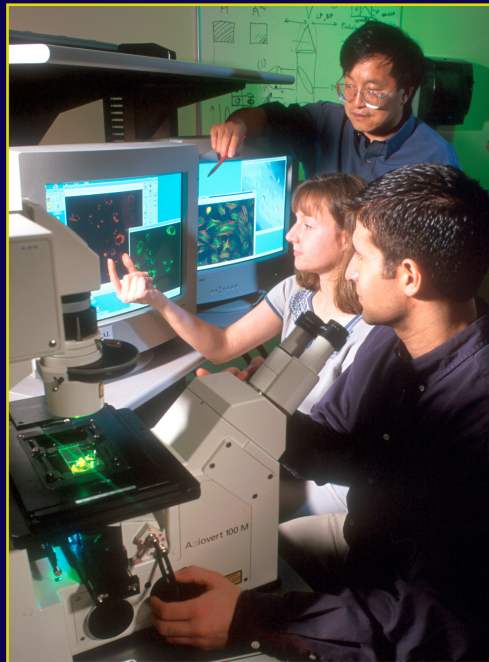
- ▷ Photovoltaics
- ▷ Combustion
- ▷ Lighting technology
- ▷ Fuel cells
- ▷ Biofuels
- ▷ Electric distribution



## ➤ Southern Pine to Ethanol (SPTE)

- ▷ Negative CO<sub>2</sub> emissions
- ▷ Costs < \$.80 to produce
- ▷ Conventional vehicles can burn mixed with gasoline
- ▷ Would offset declining forest products industry

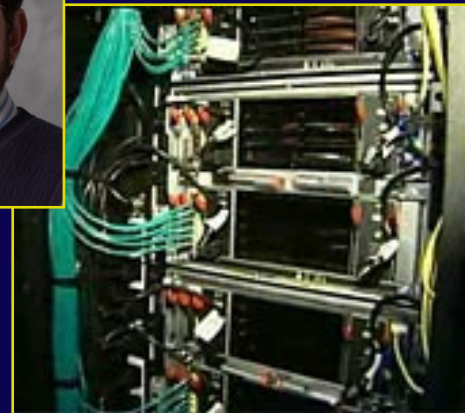
# New interdisciplinary centers



National Center of  
Cancer  
Nanotechnology  
Excellence



Health Systems  
Institute



Center for  
the Study of  
Systems  
Biology



# Nanotechnology Research Center

- Largest in the South
- Three classes of cleanrooms (10, 100, 1,000)
- First in nation, world designed for both physical, biomedical research
- Flexible configuration
- Multi-user access
- Interdisciplinary
- Groundbreaking Aug 7



# Buildings near completion



Christopher W. Klaus  
Advanced Computing  
Building

Molecular Science  
and Engineering



# Extending our global reach

G-8 Business  
and University  
Leaders  
Symposium on  
Innovation



Shanghai  
Jiao Tong  
University



Opening Georgia  
Tech Ireland

# Economic Impact Study released

BellSouth CEO Duane Ackerman and Southern Company CEO David Ratcliffe



joined President Clough in presenting the study.

“Georgia Tech has provided Southern Company, the State of Georgia, and the Southeast with a great resource for innovation, qualified graduates, and research. It is in our best interest to keep Georgia Tech competitive and help all our state research universities achieve the flexibility they need to compete with their peers across the world.”

David Ratcliffe





# State government/BOR

- New fiscal year began July 1:
  - ▷ \$38 million for Nanotechnology Research Center
  - ▷ \$4.9 million to renovate Old CE Building
  - ▷ \$5 million for ATDC seed fund
  - ▷ \$5 million for nanotech infrastructure
- Board of Regents adopted “guaranteed” tuition
- Chancellor visited campus May 2



# Rankings

- Among top 10 public universities
- Engineering in the top 5
  - ▷ 8 of 11 disciplines in the top 10
  - ▷ Industrial & Systems Engineering #1 for 16 years
- Sciences improve
  - ▷ Chemistry and biochemistry cracks top 25
  - ▷ Discrete math and combinations is #7
  - ▷ Applied mathematics is #14
- Computing moves up to # 11
  - ▷ Computer theory ranks #9
- College of Management holds in 30s after moving up from 40s
- Ivan Allen College
  - ▷ Information technology management is # 8
  - ▷ Environmental policy and management is #11

# Maximizing the opportunities Mitigating the risks



“These boots are made for walking,  
and that’s just what they’ll do.  
One of these days these boots  
are gonna walk all over you.”

Nancy Sinatra

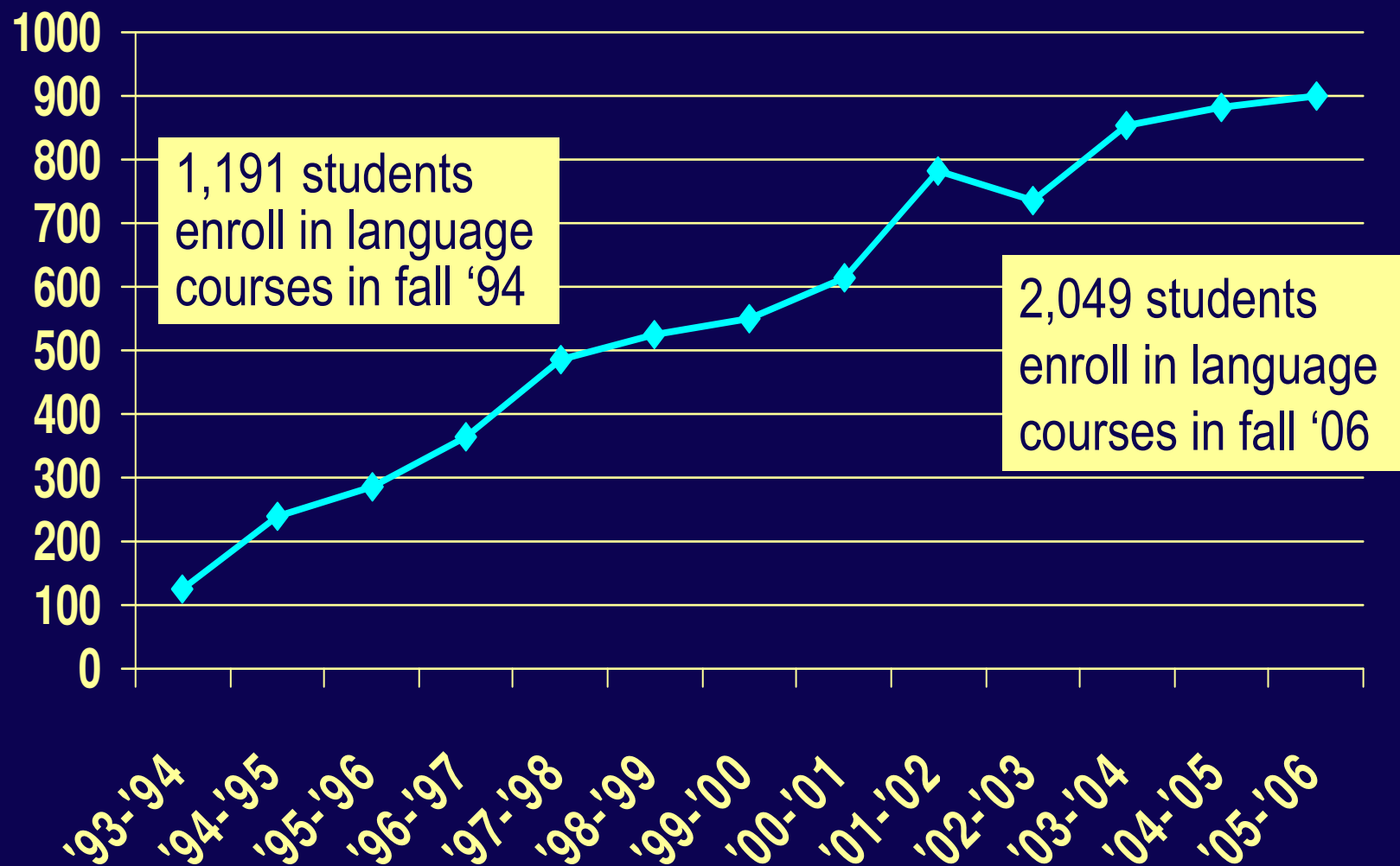
# Students are on the move

	<u>1994</u>	<u>2005</u>
Undergrad students	9,212	11,841
Average SAT score	1287	1340
Bachelor's degrees awarded	1,893	2,470
Graduate students	3,688	5,294
M.S. degrees awarded	993	1,278
Ph.D. degrees awarded *	189	399

\* Tech has awarded more PhD's since 1994 than in its entire history prior to 1994.



# One-third of students study abroad



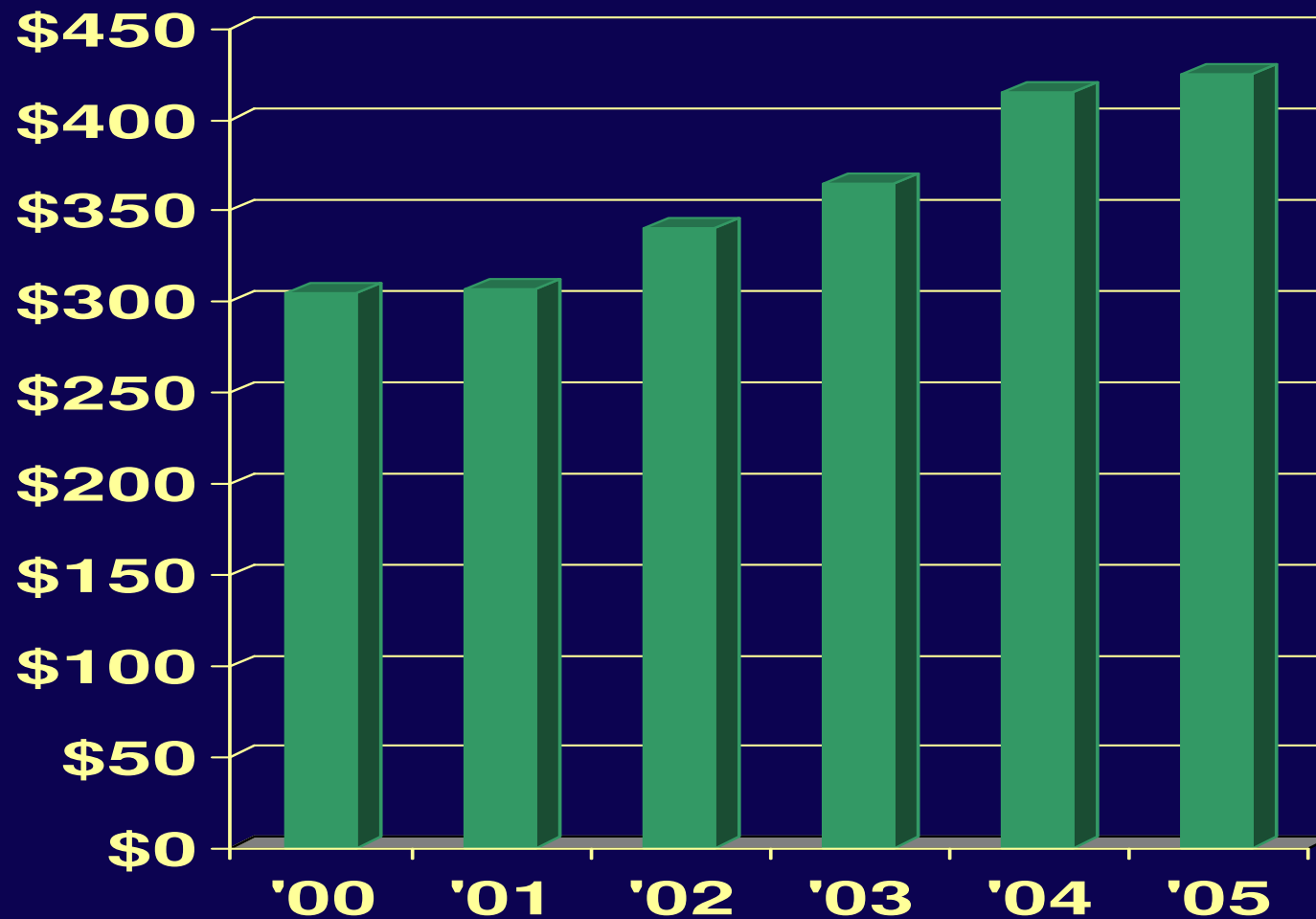
# Faculty are on the move

	<u>1994</u>	<u>2005</u>
Academic faculty	732	940
National Academy members	12	30
NSF CAREER Awards	7 *	107
Endowed chairs	36	117
Centers of excellence	4	17
Research expenditures	\$212 M	\$425 M
NIH grants	\$3 M	\$19 M

\* 1995: first year CAREER Awards were presented

# Annual research expenditures

(in millions)



# Growing research initiatives



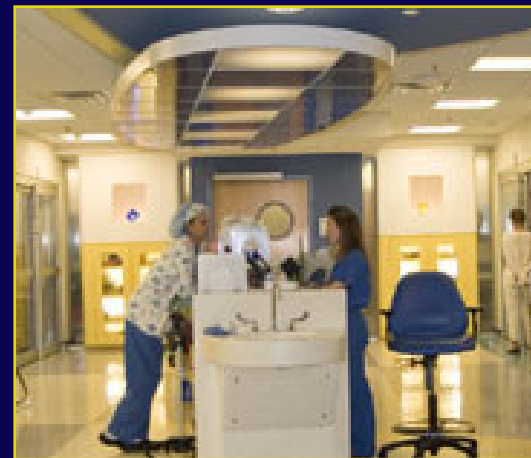
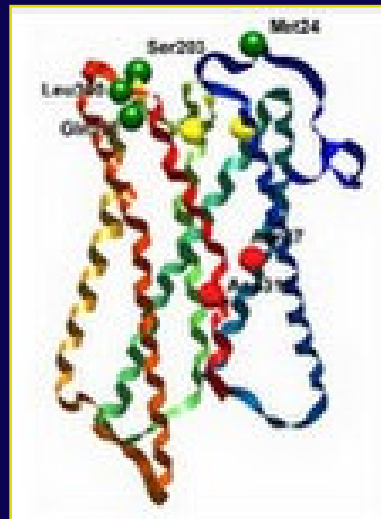
Energy



Predictive  
medicine



Systems  
biology



Electronic  
health  
systems



# Growing research initiatives



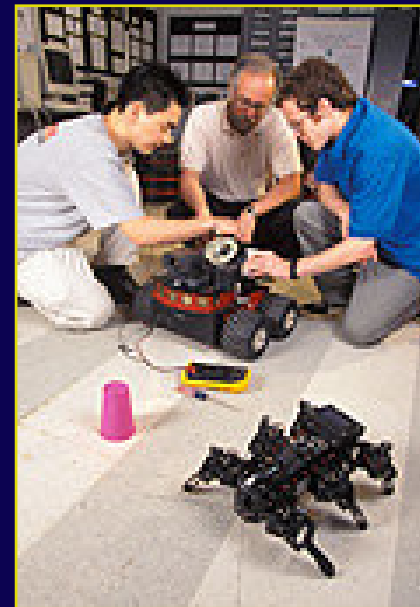
Disasters, water



High performance computing



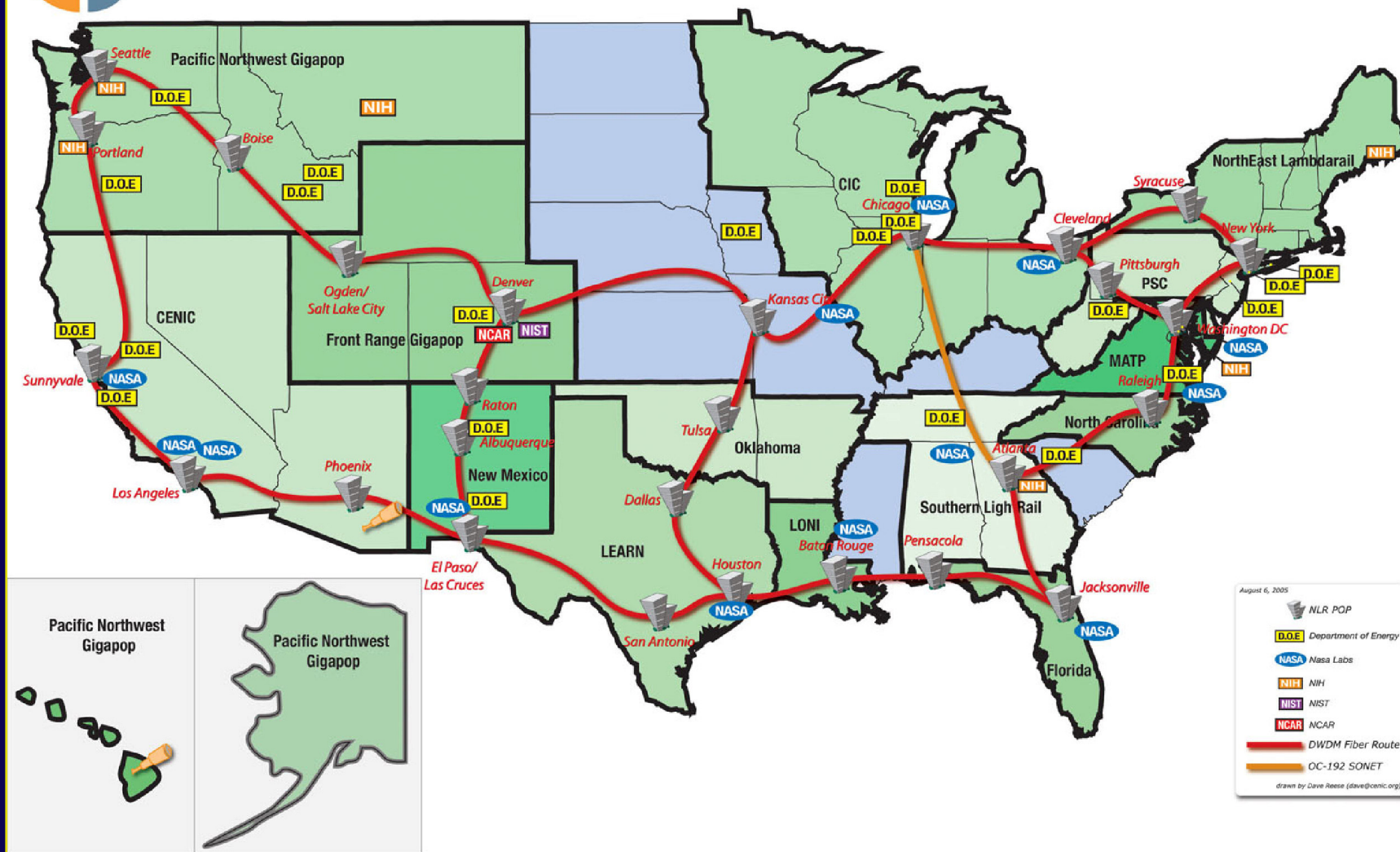
Music technology



Robotics



# National LambdaRail Architecture

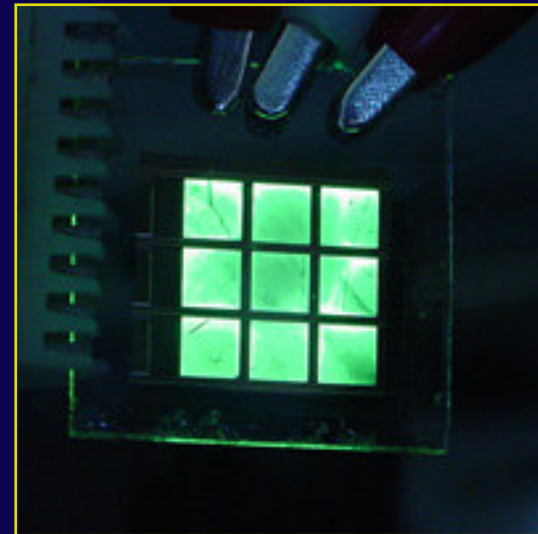


# New international research partners



Joint research unit between GT Lorraine and Centre National de la Recherche for telecommunications and developing of new materials.

Belgian pharma/ chemical giant Solvay: \$3 million partnership with Center for Photonics and Electronics for research on organic light-emitting diodes (LEDs).





# Expanding economic impact

- From 1987 to 1994, Georgia Tech spun off 8 new companies; from 1995 to 2005, Tech spun off 76 new companies.
- In 1994, Tech was awarded 19 patents; in 2005, Tech was awarded 43 patents, 9<sup>th</sup> among research universities nationwide.

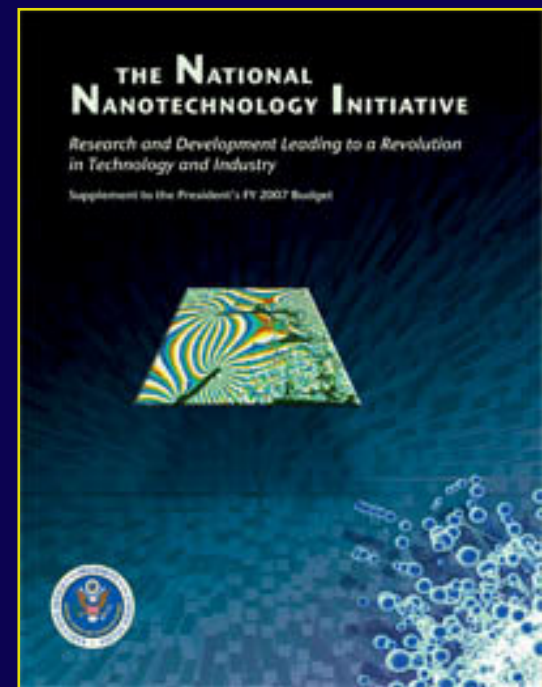
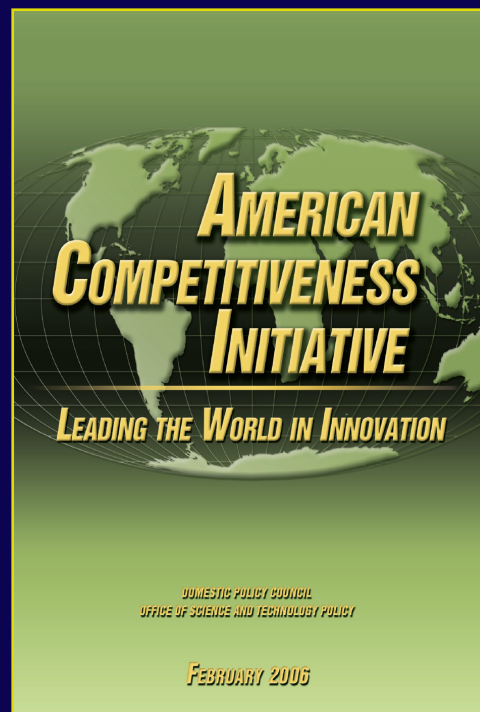
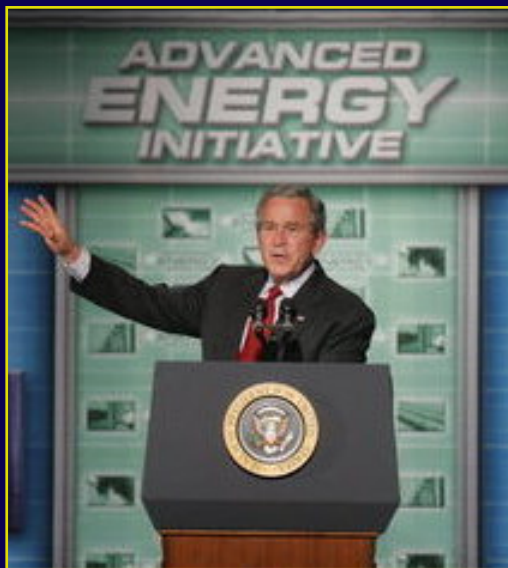


Advanced Technology Development Center



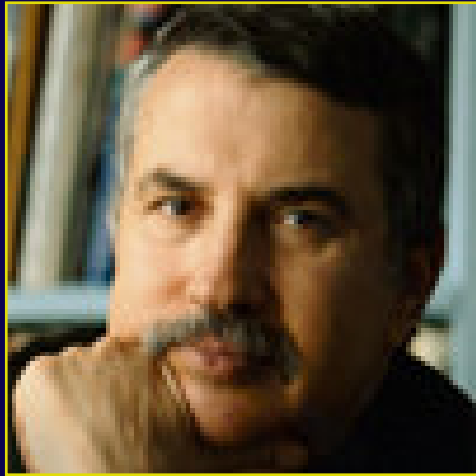
Technology Enterprise Park

# National priorities converge on Georgia Tech's "sweet spot"

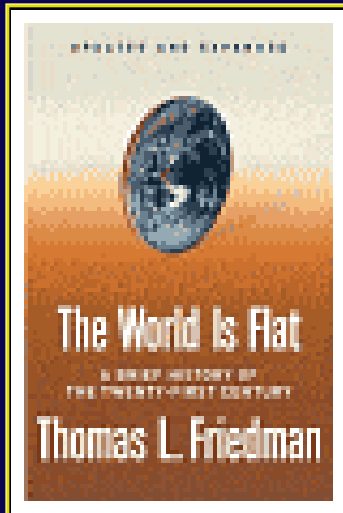




# Tech has the “right stuff”



New edition of *The World is Flat* features Georgia Tech and lauds the College of Computing’s transformation of its undergraduate program around “threads.”



“What the Georgia Tech model recognizes is that the world is increasingly going to be operating off of the flat-world platform, with its tools for all kinds of horizontal collaboration.”

Strategically seizing our opportunities to become an innovative, global university opens us to risks and threats to our students, our faculty and staff, our data, and our relationships with alumni, governments, and the general public. How to we maximize the opportunities and at the same time mitigate the risks?

